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# PERCEIVED RISK AND CONFIDENCE IN DIGITAL PAYMENT SYSTEMS: A FINANCE MANAGER'S PERSPECTIVE

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## ABSTRACT

An assortment of new support services has entered the market because of years of commercial technology use. One of the many services is e-payment, which enables payments via an electronic device without the need for actual cash. Global adequacy of electronic payment systems has varied; certain electronic payment systems are quite popular, while others are comparatively less common. The main reason for the poor adoption rates is said to be the perceived risk connected to payment methods. We investigated how finance managers in Pune perceived the risk associated with digital payments using a poll of 100 of them. Our study's findings indicate that finance managers have a relatively low risk perception of digital payments. This demonstrates their confidence in both the guarantees and the resilience of digital payment systems.

**Keywords:** Risk Perception, Digital Payments, Payment Security, E-Payment Systems, Digital Economy, Transaction Safety

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## 1. INTRODUCTION

Financial inclusion stakeholders – including market regulators, standards bodies, consumer advocates and other market participants – agree that a thoughtful approach to risk management and regulation is essential to support successful digital financial services. But risk is a complicated terrain, even for conventional financial services, where banks are the dominant players, value chains are relatively well understood, and risk management terminology and approaches have been established for years. Digital payments and wider digital financial services bring additional complexity as new entrants constantly enter the market, new products are introduced regularly, and the dynamics of the value chain are constantly changing. The situation is further complicated by the lack of common terminology and

frameworks for identifying and assessing the associated risks. As digital payments form the foundation of digital financial services, the first step is a framework to manage and regulate their risks. There is significant useful literature that describes the more common risks (such as fraud) associated with digital payments. However, there are very few works that attempt to present a unified risk framework in a way that is accessible to non-experts but also meaningful to risk professionals and industry participants. Such a framework would help the adoption of low-cost digital payments by aligning industry participants (eg banks and telcos), customers and regulators on the risks associated with digital payments and how to mitigate them.

Using a survey of 100 Finance Managers Pune, this paper explored risk perception towards digital payments.

Some of the common risks associated with digital payment systems (DSPs) are briefly described.

**1. Inability to transact due to network outage or service unreliability**

Many DSP programs target populations in poor and often remote locations where mobile network coverage is often poor. As a result, recipients frequently experience network connectivity issues for point-of-sale (POS) devices and mobile phones. DSP beneficiaries who have problems accessing their regular payments suffer acutely from this unreliability.

**2. Insufficient liquidity of agent or ATM**

DSPs are usually transferred in bulk, with most recipients usually withdrawing all their money in a single day. This puts a lot of pressure on the access point to meet liquidity requirements, which is a particular challenge in remote and less secure areas. As a result, recipients often queue and wait for hours to collect or collect their payments or are sent back home to repeat the journey the next day. This risk seems to perpetuate a vicious cycle: the lack of liquidity erodes the trust of beneficiaries and trust in the system, creating the need to withdraw the entire payment at once and immediately after it is deposited, exacerbating cash liquidity problems.

**3. Complex user interfaces and payment processes**

Complex interfaces and complicated processes – which increase the likelihood of errors and losses due to incorrect transactions or recurring timeouts due to limited transaction time – create risks and a poor user experience for all types of DFS users. DSP beneficiaries are even more likely to be negatively affected: in addition to being among the most vulnerable and least literate consumer segments, they are often new and initially uncomfortable with the digital payment system, including the technology and the numerous steps required to access or use payments.

**4. Poor or no repair mechanism**

Another particularly weak point in DSP programs is recourse mechanisms such as complaints, inquiries and dispute resolution. Recipients are often unaware of or confused about appeals and support options, making it difficult for them to resolve issues or get answers to questions they have about their payments. Recipients from several programs also feared they might lose their transfers if they complained, a misperception that made them reluctant to report problems.

**5. Fraud that targets the recipient**

DSP recipients are particularly vulnerable to fraud such as unauthorized charges, merchant price gouging, and skimming payments (i.e., illegal withholding of a portion)

## 2. LITERATURE REVIEW

Slozko and Pelo (2015) wrote that digital technology and the increased use of the Internet have caused major changes in the functioning of the global economy. The article essentially examines how the introduction of digital technologies is transforming the global financial landscape; studies change in the forms of financial circulation and examines the impact of digital technologies on payments. It also reveals the potential challenges and risks associated with the adoption of digital technologies that the financial sector may face. The authors believe that digital technologies in particular support the evolutionary development in finance; second, reduce operating costs and increase efficiency. Risks are analyzed and tips on how to overcome them are given.

Zimmerman and Silivia (2016) reported that digital social payments (DSPs) offer a number of potential advantages over traditional cash, voucher or in-kind methods. Proponents most often cite increased efficiency, reduced leakage, and faster, more convenient, and safer payments to recipients. When linked to bank accounts or mobile wallets that offer value storage options or access to other financial services, bottom-of-the-pyramid DSPs could pave the way for fuller financial inclusion. However, evidence shows that the benefits of DSP financial inclusion are limited so far: most

beneficiaries withdraw 100 percent of their payment at once and typically do not use the account again until the next transfer, let alone to take advantage of additional benefits. This lackluster use has led some to question the promise of the DSP as a gateway to financial inclusion.

Acharya (2017) states that digital financial services have benefits but pose privacy risks that harm consumers, merchants, markets and others. Some payment systems in India suffer from vulnerabilities because they were not future proofed with privacy by design. On the back end, centralized data storage is risky. Defective sensing devices on the front end allow data to be misused. Over the middle mile, data is transmitted without strong encryption. Payment systems must be redesigned to prospectively protect privacy and use unbreakable encryption and open standards. Data protection legislation and a strong market regulator are also essential.

Agur et al. (2020) wrote that the COVID-19 pandemic and the need for social distancing have focused on digital financial services. Digital financial services enable social distancing; enable governments to quickly and efficiently disburse funds to those in need; and enable many households and businesses to quickly access online payments and financing. However, risks to stability and integrity, which are always present, may worsen if the use of digital financial services expands rapidly in times of crisis without adequate regulations and safeguards. At the same time, efforts to increase the use of digital financial services should prevent existing differences between users from deepening.

Shree et al. (2021) reported that with recent policy initiatives and technological developments, India's digital payment system is a promising success story. At the same time, the data also point to a growing use of cash. Although country-level aggregate data may indicate citizens' overall preferences, we use a new dataset based on online surveys to understand how factors such as "perception" and "trust" in digital payments and experiences with online fraud influence consumers' payment behavior. While demographic factors such as age, gender and income are relevant factors that determine this choice, we find compelling evidence that the use of digital payment methods is influenced by her perception of these tools as well as her trust in overall payments and banking. framework system in general. We found that the degree to which prior experience with online fraud deters the use of digital payments varies by transaction purpose.

Manrai et al. (2021) investigated factors influencing the adoption of digital payments by women in rural India. The study extended the UTAUT-2 Unified Theory of Technology Acceptance and Use factors with perceived trustworthiness and self-determination theory to understand the user behavior of rural Indian women. In addition to testing the direct relationship, the study verified the mediating role of some constructs. The study was conducted in the rural parts of the adjoining areas of Delhi where women from different states, education and financial backgrounds live. The research model was empirically tested on 568 respondents using the structural equation modeling (SEM) technique. The research model was able to explain 72.6% of the variance of the user behavior variable. Expected effort, habit, facilitating conditions, and perceived competence were found to be significant determinants of user behavior. In addition to these direct relationships, two constructs, habit as well as facilitating conditions, were found to partially mediate the relationship between behavioral intention and behavior. This study provides some very important clues for digital payment service companies by highlighting the significant factors explaining technology adoption by semi-rural women. Companies need to design appropriate marketing strategies to instill the trust of potential customers towards their companies as well as the services they provide. The role of a simple digital platform that is easy to learn and use is also an important element in determining technology adoption.

Khiaonarong et al. (2022) state that major operational incidents in the payment system indicate the need to improve their resilience. Meanwhile, as payment infrastructures increasingly digitize, integrate and intertwine, they require an even higher degree of resilience. In addition, the risks that could cause major disruptions to have worsened due to the increase in power outages, cyber incidents and natural disasters. International experience suggests that reliability targets, redundancy, evaluation of critical service providers, endpoint security and alternative arrangements need to be strengthened.

Similar studies were done by Sharma (2021) and Gupta (2017).

## 3. METHODOLOGY

To draw meaningful inferences and conclusions, a minimum sample size of 100 is recommended (Alreck and Settle, 2003). Accordingly, 100 Finance Managers from Pune were surveyed through a questionnaire containing agreement accorded to the 10 risk statements given below:

1) Digital payments are highly prone to cyber crime
2) Digital payments are risky as there might be failure in internet connections
3) Digital payments are risky due to password thefts
4) Digital payments are risky due to lack of physical control
5) Digital payments are risky as they are carried at a tremendous speed
6) It is difficult to track a digital payment in case of any problem
7) Digital payments cannot be easily reversed
8) The overall digital payment ecosystem is not robust
9) There are not many safeguards available for the risk in digital payments
10) They are more risky as they can be carried by children

Likert scales were used for response options. The response options were - 0 - Can't Say, 1 - Somewhat agree, 2 - Completely agree, 3 - Somewhat Disagree, 4 - Completely Disagree.

Responses were received from 100 Finance Managers. The questionnaire was tested for reliability, and it returned a Cronbach Alpha score of 0.81 and hence was considered reliable. Following hypotheses were formulated:

Ho: The risk perception towards digital payments is high.

Ha: The risk perception towards digital payments is low.

The hypothesis was tested based on the average agreement/disagreement responses to the ten statements of the questionnaire. The average agreement/disagreement response of the 100 respondents for all the ten statements was taken as the sample mean and it was compared with a hypothesized population mean of 50% agreement/disagreement connoting an event by chance and not due to any statistical significance. A t-test was applied at 95% confidence level and based on the p-value the null hypothesis was tested for rejection or non-rejection.

## 4. DATA ANALYSIS AND INTERPRETATION

20 respondents were from the Northern region of Pune, 30 were from the Eastern region, 25 were from the Western region, and 25 were from the Southern region. 31 respondents were from the age-group of <30 years, 32 were from the age-group 30-40 years, and 37 were from the age-group of >40 years.

Table 1 gives the ten risk statements items and their agreement ratings by the 100 respondents:

**Table 1: Average ratings for the ten statements**

| Sr. No. | Item | Agreement % |
|---|---|---|
| 1 | Digital payments are highly prone to cyber crime | 81% |
| 2 | Digital payments are risky as there might be failure in internet connections | 83% |
| 3 | Digital payments are risky due to password thefts | 84% |
| 4 | Digital payments are risky due to lack of physical control | 85% |
| 5 | Digital payments are risky as they are carried at a tremendous speed | 79% |
| 6 | It is difficult to track a digital payment in case of any problem | 86% |
| 7 | Digital payments cannot be easily reversed | 88% |
| 8 | The overall digital payment ecosystem is not robust | 84% |
| 9 | There are not many safeguards available for the risk in digital payments | 83% |
| 10 | They are more risky as they can be carried by children | 88% |
| | Average | 84% |

The average agreement for the ten statements was 84% and this was compared with the hypothesized population mean of 50%. Results were as under:

**Table 2: Summary statistics**

| Parameter | Value |
|---|---|
| Sample mean | 84% |
| SD of sample | 1.0262 |
| Hypothesized population mean | 50% |
| n | 100 |
| t-value | 3.00396 |
| p-value | 0.00169 |
| alpha | 0.050 |

As the computed p-value is lower than the significance level alpha=0.05, one should reject the null hypothesis H0, and accept the alternative hypothesis, Ha.

Thus, the null hypothesis the risk perception towards digital payments is high was rejected in favor of the alternate the risk perception towards digital payments is low.

## 5. CONCLUSION

The results of our study show that the risk perception of finance managers towards digital payments is on the lower side. This shows that they are confident in the robustness of digital payment systems and also in the guarantees. The findings of our study show how different DSP programs and providers are working to create the foundations for successful DSP delivery. On the one hand, they address identified supply-side deficiencies and point to the importance of strengthening the demand side – the recipient – for self-defense, and on the other, they become vigilant and empowered customers. Going beyond these basics to achieve meaningful financial inclusion outcomes will require solutions that do more to build trust in digital payment services and ultimately add value to the lives of recipients and generate interest in other financial services. These issues remain unresolved if winning a paid government contract is the sole motivating factor for providers, or if the program values designing services with the lowest fee over customer-centric systems that can provide the highest value and best service to beneficiaries. Social payment programs and providers are responsible for ensuring the reliability, convenience and security of DSPs. It will involve trade-offs and require an investment of both time and resources, but it may be the key to uncovering the elusive win-win-win for all parties involved.

## CONFLICT OF INTERESTS

None.

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